DRAFT
DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT

USDA Forest Service R-8
Ozark National Forest
Pleasant Hill Ranger District
Johnson County, Arkansas

Compartments 270, 271, 272, 276, 277, and 278

Locust Gap
11-26-2014

DECISION NOTICE (DN)

Based on an Environmental Assessment (EA) prepared by an interdisciplinary team of Forest Service specialists, decisions regarding management actions for forest health, watershed improvement, ecosystem restoration, wildlife habitat, and recreation over the next several years have been made for the Locust Gap project. Decisions have been made for pine and hardwood forest stand management and the connected actions of site preparation for regeneration, midstory control, release, timber stand improvement (TSI) and associated roadwork to access the forest management areas, together with decommissioning of roads.

These actions are planned to implement the Ozark-St. Francis Land and Resource Management Plan (LRMP-Revised 2005) goals, objectives, and desired future condition for the timber, recreation and wildlife resources within the project area. In general, the objectives for management in the project area are to restore ecosystem health, and sustainable conditions, watershed improvement, increase plant and wildlife diversity, reduce forest fuel loading through restoring a more frequent fire-return interval, reduce conflicts between motorized vehicles and other resource values, and increase Forest visitor safety. The management actions designed to meet these objectives address issues and concerns expressed by the public and interdisciplinary team.

The project area of **Locust Gap** comprises a total of approximately 10,553 total acres; 7,049 acres of National Forest land and 3,504 acres of private land. The Locust Gap Project area includes compartments 270, 271, 272, 276, 277, and 278. The legal description is T13N R25W Sections 1 and 12; T13N R24W Sections 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, and 18; T14N R25W Sections 26, 35, and 36; and T14N R24W Sections 21, 28, 29, 30, 31, 32, and 33 (Figure 1). The project area is bounded on the north, east, and west by State Highway 16 while the southern boundary is bounded by Madison County Road 4310 and Clifty Creek. The town of Red Star is situated on the northern boundary of Locust Gap. Locust Gap is also approximately 6.5 miles to the north and west of Fallsville and approximately 11 miles east of St. Paul. The Locust Gap

project area falls within the following management areas (MAs): Scenic Byway Corridor (1.H), Oak Woodland (3.B), Mixed Forest (3.C.), and Riparian Corridors (3.I.).

Based on the analysis documented in the EA, it is my decision to implement **Alternative 3** (see attached maps). These actions will have some impact on National Forest lands from vegetation management, watershed improvement, and wildlife habitat improvement work.

Private lands may be involved in the completion of prescribed burning to restore ecosystem health and reduce forest fuel loading, but only with consent of private landowners and completion of applicable agreements.

Specifically, the following actions are planned:

VEGETATION MANAGEMENT:

Pine and Hardwood Thinning followed by Timber Stand Improvement (TSI) – Midstory Control & Burning: Thinning would increase growth of residual trees, reduce the susceptibility of the stand to insect and disease, and improve habitat for wildlife. The stands would be thinned to a target basal area of 50-70 ft2/acre, about 55- 75 trees/acre. Trees that are suppressed or have poor form would be removed. Trees of good form and/or close to the correct spacing would be favored over trees that are simply of larger size. The target spacing of trees would depend on the average tree diameter of the stand. Prescribed burning following thinning would provide beneficial effects for wildlife. Current timber types will be sustained over time. TSI treatments of the midstory using herbicide and/or handtools may be utilized to further reduce competition. Hardwood thinning is proposed on approximately 1,095 acres due to changing compartment 270, stand 1 to a midstory treatment under Alternative 3. Pine is proposed on approximately 169 acres.

Oak Woodland Thinning: This prescription emphasizes restoration and maintenance of a mosaic of open oak woodland that mimics historical conditions. The purpose would be to provide habitat for associated plants and animals, some of which are rare and declining, and to create a setting for recreation that is visually appealing, plentiful in wildlife and presently not commonly encountered within the project area.

Hardwood Shelterwood followed by Site Preparation & Burning: This prescription would sustain long-term forest health and provide for the succession of hardwood forests. These stands are mature; growth has slowed and the trees are beginning to decline. Removing some of the larger trees would open up the area and allow young productive trees to become established. After harvest, these stands would have site preparation treatments of herbicide/hand tool/mechanical methods and controlled burning to reduce competition of the desirable species. The objective of this shelterwood would be to open up the stand allowing sunlight to reach the forest floor while leaving an adequate amount of trees to provide seed. As the name implies, several trees would be left in the overstory to provide shelter to the developing regeneration on the ground. The mature hardwood left over from the harvests will remain until the new stands receive their first thinning. The combination of stump/root sprouts from oak species and the other desirable species, as well as seedlings will establish the new stands. An average stand

density-basal area of leave trees, consisting of 30 ft²/acre (20-30 trees/acre) would remain. This treatment is currently proposed on approximately 398 acres.

Connected Treatments for the Hardwood Shelterwood Stands: If desired species adequately replenish the new stands by natural means, **release** measures may be implemented using hand tools/herbicide/Rx burning, if necessary, to reduce competing vegetation. This would occur within 3 to 7 years after harvest. If the desired species fail to adequately establish new stands by natural means, **planting & release** of oak species will be required.

Hardwood Timber Stand Improvement (TSI) – Midstory Treatment & Burning: This treatment would occur on approximately 1,159 acres. These areas are comprised of mostly immature sawtimber, but do have a component of mature trees with dense midstory and understory of desirable/undesirable species. Removal of the undesirable midstory will allow oak and other desirable species currently in and underneath the midstory to be released and become competitive. The success of this treatment, via hand tool/herbicide means, would allow a regeneration harvest to be considered next entry. Undesirable species will be treated with herbicide. Some desirable species such as oak may be cut but not treated with herbicide and allowed to re-sprout. Prescribed burning may follow this treatment to further control unwanted competitors of oak.

Hardwood Pre-Commercial Thinning (PCT): This treatment would occur on approximately 390 acres and reduce the density of stands that have not yet reached commercial size. This will allow crowns and root systems to reach maximum potential. This will give the remaining trees a head start to reach maturity in an optimum time and healthy condition. Hand tools, herbicides, mechanical applications, and power saws are all means that could be utilized.

Salvage of Dead, Down, and /or Damaged Timber: The Pleasant Hill Ranger District is susceptible to natural occurrences such as severe drought, wildfire, tornadoes, windstorms, lightning strikes, insect and disease outbreaks, catastrophic ice storms, natural mortality, and human-caused events such as arson and residual material from implemented management activities (i.e. ponds, midstory reduction, thinning, and prescribed burning). These occurrences cause hazards for the public and have negative effects on the overall health of the forest. This action will allow the District Ranger to respond to situations within the Locust Gap Project boundaries where dead, down or damaged trees pose a threat to the public or the health and well-being of the forest in a consistent and timely manner. If the district waits until an incident occurs before making the decision to remove the dead, down or damaged trees through a salvage or firewood sale, a time lag of several months or more could pass before the decision would be implemented. In many cases this time delay is unacceptable because of hazards to the public and/or it could cause the value of the timber product to degrade significantly due to insect and fungal infestations of damaged trees.

Prior to conducting salvage and/or regeneration operations within the Locust Gap Project area boundaries, site-specific documentation for each salvage and regeneration action would be prepared and retained by the District. As a minimum, that documentation will have statement of heritage resource survey requirements and clearance type (categorical exclusion or project notification, or other written agreement between the Arkansas State Historic Preservation Office,

affected Native American Tribes, and the Ozark-St. Francis National Forests), stand prescription cards with details of the current stand and a regeneration plan to return the affected area back to its desired future condition as well as a statement of effects on proposed, endangered, threatened, or sensitive species (TES). Documentation will include the location (compartment and stand), estimated area affected (acreage), a map of the impacted area(s), an estimated volume of timber to be removed, identification of the watershed containing the affected area, and identification of the management area within which the affected area lies and actions to be conducted. Each salvage site will be reviewed by the timber assistant and the timber sale administrator or other staff prior to commencement of salvage operations. The number of acres in which salvage operation activities may take place would not exceed 3,000 acres per event. Salvage and/or regeneration operations will be conducted within the project area boundaries following the guide lines from the Ozark-St. Francis National Forests Revised Land and Resource Management Plan.

Prescribed Fire

Prescribed burning ignitions will occur in Compartment 270, however all other burns would be limited to approximately 300 acres/day or less. Prescribed burning will help reduce hazardous fuels and wildfire risk, improve wildlife habitat, and be utilized for silviculture purposes. Knutson-Vandenberg (KV) retained receipt funded prescribed fire will be implemented on all acres possible within KV sale area boundaries surrounding pine and hardwood thinning units.

Prescribed fire treatments may occur on private lands located within the Locust Gap project area, but ***only*** after consultation with landowners and a prescribed fire agreement under the Wyden Amendment (Section 334(a) of Public Law 105-83) and/or Stevens agreements in cooperation with the Arkansas State Forestry Commission. Should agreements with private landowners be signed, private lands would be burned by Arkansas Forestry Commission under prescription in conjunction with prescribed burns on public lands. Prescribed fire would be utilized for several purposes in the project areas.

Prescribed fire would serve to re-introduce fire into a fire-adapted ecosystem, promote oak regeneration in canopy openings created by red oak borer damage/oak decline, promote regeneration in shelterwood and seedtree harvest areas, maintain pine/hardwood stands in open conditions, increase herbaceous understory species density and diversity, improve habitat conditions for fire-dependent special-status plants, increase soft-mast production and reduce potentially hazardous accumulations of fuels on the forest floor, and improve wildlife habitat conditions. Portions of the project area would be burned on an approximate 3-10 year fire return interval, based on best available science regarding beneficial fire-return intervals for the project area. If Rx burning is not conducive, then mechanical fuel reduction will be applied if sufficient funding is available.

Roadwork

New Construction: Initially, during scoping approximately one mile of road was proposed to be constructed on private land. However, after further review and discussion of this road, it has been determined that no new construction would be needed.

Reconstruction: Approximately 9.2 miles of old, existing roads would be reconstructed. These roads are situated on somewhat stable templates that display signs of age where spots of erosion are occurring and drainage crossings are crumbling. Reconstruction would help stabilize, thereby reducing erosion and sediment from reaching streams.

Maintenance: Approximately 10.6 miles of open and closed roads would receive maintenance in order to obtain suitable road conditions for hauling timber. County roads anticipated to be used are regularly maintained by their respective counties, along with Forest Service assistance. Closed roads would temporarily be opened during timber/silvicultural activities and immediately closed again with gates or mounds after all activities have been completed to reduce erosion caused from vehicle traffic and protect wildlife habitat.

Decommissioning: Approximately 13.2 miles of existing roads no longer needed for management or access would be decommissioned. This would entail restoring roads to a more natural state. Activities used to decommission roads would include, but are not limited to the following: re-establishing former drainage patterns, stabilizing slopes, restoring vegetation, blocking the entrance to the road, installing water bars (earthen mounds), and removing culverts. Decommissioning roads will be out-sloped and all natural drainages will be reconstructed. Unnamed and illegally accessed off-highway vehicles (OHV) trails present in the Locust Gap Project area may be closed using debris, rocks, earthen mounds, or gates.

Road decommissioning is defined by 36 CFR 212.1 as activities that result in the stabilization and restoration of unneeded roads to a more natural state. Several of these roads currently traverse natural fluvial systems and concentrations of water may result in possible resource damage. Priorities for decommissioning these roads include access, drainage, stability, erosion, and re-vegetation. These roads will be removed from the transportation system.

Temporary Roads: Approximately 6.9 miles of temporary roads would be needed to access timber stands. These roads would be blocked, and then rehabilitated with seeding and/or natural re-vegetation. Temporary roads would not be intended to be included as part of the forest transportation system as they are managed for short-term projects or activities, followed by decommissioning after use.

Access: Adjacent landowners whose property blocks access to Federal land will be contacted by the Forest Service. Neighbors of the forest will be asked to consider allowing entrance to these otherwise inaccessible areas for forest management and fire protection.

Recreation:

If funding becomes available and the trail is approved under the forests trail priority list, an interpretive/nature hiking trail may be constructed south of the Headwaters School and State Highway 16 located in Compartment 270, Stand 1. The hiking trail would be considered a nature trail focusing on the tree and plant species native to the area as well as conservation and environmental education. Panel displays or wooden signs could be used to describe a tree or plant species or other environmental features along the trail. The trail would be no more than 1 mile in length and open to the public year around.

Heritage Resources

The project has been designed so that all sites that may be eligible for the National Register of Historic Places, or that are of undetermined eligibility, lie outside any of the project's areas of planned ground-disturbing activity. Historic site areas which contain no organic cultural material will undergo prescribed burning. Past research has shown that sites such as these will not be affected by prescribed fire.

Should any additional sites be found during project implementation, they will be examined by a professional archeologist, who will prescribe necessary mitigation measures.

Based on these findings, all sites will be preserved intact and no significant effects will occur to historical or prehistoric sites that may be eligible for nomination to the National Register of Historic Places.

Wildlife & Fishery Habitat Improvement

Gates: The current proposal would include one new gate installed in the Locust Gap Project area. This gate would be constructed following commercial timber harvest on FS road 1483. The intent of installing this gate would be to limit the area to walk-in hunting, wildlife viewing and other foot travel to help protect resource values.

Non-Native Invasive Species (NNIS) Treatment (Tree of Heaven): Based on biological evaluation field inventories there is potential for approximately 400 acres in the Locust Gap Project area to be impacted by varying levels of tree of heaven infestation. These occurrences of tree of heaven would be treated with herbicide under an existing National Environmental Policy Act (NEPA) EA and decision record. This decision was signed by the District Ranger in 2009, and allows the use of approved herbicides district-wide to control infestations of NNIS. Treatment of tree of heaven was analyzed in the Locust Gap EA only for the purposes of determining cumulative effects. The previously authorized action of NNIS treatment was analyzed for cumulative impacts to the environment in conjunction with new proposed actions for the Locust Gap Project area. NNIS treatment in Locust Gap would be prioritized based upon size of infestation and potential for continued spread.

Wildlife Prescribed Burning: Landscape scale prescribed burning for wildlife habitat improvement, ecosystem restoration, and fuels reduction would be completed in all of Compartment 270 on public lands. In addition, prescribed burning would be implemented in portions of Compartment 272 and Compartment 278. Knutson-Vandenberg (KV) retained receipts would fund prescribed fire on all acres possible within KV sale area boundaries surrounding pine and hardwood thinning units in these compartments.

ENVIRONMENTAL EFFECTS:

Implementation of Alternative 3 using the mitigation measures as shown on pages 37-46 of the EA will have some effects on the environment. These effects are stated on pages 46-131 of the

EA and are summarized in Table 9 on page 47, 48, and 49 of the EA. Environmental effects by various resource categories are briefly described as follows:

Water – Watersheds in the United States are divided into progressively smaller units known as hydrologic units, recognized by the United States Geological Survey (USGS) - as regions, sub-regions, basin, and sub-basin units. This hierarchical division of watershed boundaries is useful for assigning address-like codes to drainage basins. This project area (Figure 2) falls within the Arkansas-White-Red region (11), the Lower Arkansas sub-region (1111), the Lower Arkansas-Fourche La Fave basin (111102), and the Frog-Mulberry sub-basin unit (11110201). The Ozark-St. Francis National Forests further classify land areas into progressively smaller units: watersheds and sub-watersheds. The proposed project areas fall within the Headwaters Mulberry River watershed (1111020106) and at the smallest scale, the proposed project occupies the northern portion of the Upper Little Mulberry Creek sub-watershed (111102010601). This sub-watershed, or 6th level Hydrologic Unit Code (referred to as a watersheds), will serve as the analysis boundary for the proposed project with respect to water resources. The proposed project area as discussed in this section of the document will consist of the compartment boundaries where activities are proposed.

The project area and the sub-watershed analysis area support streams and rivers that have a dendritic drainage pattern. Dendritic drainage patterns typically have branching tributaries, which can concentrate precipitation across a wide area into one main stream channel. There are approximately 53.7 miles of streams within the analysis area, 26.7 miles of which occur in the proposed project area. The primary streams that are found in the project areas are: Little Mulberry Creek and several unnamed tributaries. Beech Hurricane Creek borders the project area on the southwestern edge. The Arkansas Department of Environmental Quality (ADEQ) maintains a monitoring station (ARK0143) on Little Mulberry Creek at the southern end of the proposed project area and another near Friley (ARK0144) at the southern end of the watershed.

The cumulative effects analysis indicates minimal risks to the water resource's current condition. The activities proposed by the Forest Service for the Proposed Action and alternative road construction alternative will result in a decrease in sediment production from the landscape. Additionally, it should be possible to schedule these activities over time instead of instantaneously as predicted by the analysis, thus further reducing the possibility of acute effects. Through the use of Forest Plan standards and the use of Arkansas Silviculture BMPs, the activities scheduled for implementation should not pose additional risks to water quality or designated uses. Monitoring in the form of subsequent fisheries evaluation and BMP compliance checks should be adequate to discern any adverse effects which may result from the implementation of the proposed action.

Soils - The analysis area for soils will be Compartments 270, 271, 272, 276, 277, and 278. The project area is located on the southern side of the Ozark Plateau in a heavily dissected section called the Boston Mountains. Project area elevation varies from about 1240 feet at the southern tip of the project area on Beech Hurricane Creek and Clifty Hollow to 2480 feet near Red Star at the northern end of the project area. Several types of topography exist in this Boston Mountain section. Most of the timber harvest would occur on a common stair-stepped landform, called

"Bluff-Bench" topography, that developed from the long term weathering/erosion of sedimentary layers of different hardness, mainly shales and sandstones. The remainder of the topography varies from nearly level to rolling mountain tops that developed from weathering of level bedded sandstones to narrow to very narrow alluvial areas along Beech Hurricane Creek, Little Mulberry Creek, and Clifty Hollow. Most of the mountain tops and creek bottoms and some wider benches now or have been under cultivation or in pastures, and some are still under private ownership. Project area topography varies from 0-3 percent slope on mountain tops, benches, and creek bottoms, to fairly steep 40-60 percent on the 200 to 300 foot slopes between the benches and just above the stream bottoms.

Soils are mostly well drained and range from shallow to deep. There are some small areas of poorly drained hydric soils in depressions on the floodplains along Little Mulberry Creek, Beech Hurricane Creek and Clifty Hollow.

There are some stumps and dim skid trails in previously harvested stands, but the soils and stands have mostly recovered from previous soil disturbance. Most of the soils consist of leaf litter, twigs, limbs, logs, gravel, stones, and have an intact root mat. Soils in the road beds have some ground cover protecting them, but are mostly bare and eroding in some sections.

For Alternative 3, there is a potential for additional temporary loss in soil productivity in the stands that were previously harvested and are proposed for thinning harvests. Fifty-eight acres of the units that were harvested using the group selection method in the past have mostly recovered from soil disturbance, but have about two acres of soil disturbance (4%). Four acres of additional temporary loss of soil productivity is estimated additional temporary loss in soil productivity equals six acres, which is 10 percent of the harvested area. The cumulative effects are not significant. Existing and estimated temporary loss in soil productivity is expected to be within the RLRMP standard. Erosion control will be done on skid trails in the harvested areas to speed the recovery of soil productivity.

There is a potential for additional temporary loss in soil productivity in the stands that were previously thinned and are proposed for shelterwood harvests. Two hundred thirty-three acres of the units that were thinned in the past have mostly recovered from soil disturbance, but have about 14 acres of soil disturbance (6%). Twenty-one acres of additional temporary loss of soil productivity is estimated for these units due to the proposed shelterwood harvest (9%). The existing and estimated additional temporary loss in soil productivity is expected to be within the RLRMP standard. Erosion control will be done on skid trails in the harvested areas to speed the recovery of soil productivity.

There is a potential for additional temporary loss in soil productivity in the stands that were previously thinned and are proposed for thinning harvests. Fifty-two acres of the units that were thinned in the past have mostly recovered from soil disturbance, but have about three acres of soil disturbance (6%). Three acres of additional temporary loss of soil productivity is estimated for these units due to the proposed thinning harvest (6%). The existing and estimated additional temporary loss in soil productivity equals 6 acres, which is 12 percent of the harvested area. The cumulative effects are not significant because the existing and estimated temporary loss in soil productivity is expected to be within the LRMP standard. Erosion control will be done on skid

trails in the harvested areas to speed the recovery of soil productivity.

Herbicides – The herbicides glyphosate, triclopyr, imazapic, imazapyr, and hexazinone have the potential to be applied for site preparation. Non-ionic surfactants may be mixed with herbicides in order to improve application success. With use of listed mitigation measures, no significant long-term degradation or cumulative effects, including state standards, on soils and water quality are anticipated from implementation of Alternative 3. Herbicide use will only be conducted under the cut-surface method to eliminate foliar spraying on a wide-scale area.

Direct effects, occurring at time of application, to birds or large mammals are unlikely, since these species are likely to move from the area when project activities are implemented. Although direct effects to amphibians are more likely since contact with herbicide could be absorbed through the skin, amphibians are likely to be under logs, rocks or leaves, making direct contact (from spray) with chemicals less likely. Direct effects to other non-target plants occurring in these habitats could occur. Application methods, including direct application to target foliage or to freshly cut stumps/surfaces, would minimize the possibility of direct contamination to non-target species. The most plausible possible direct effects to humans would be to workers from continuing work in contaminated clothing. Proper handling and cleanliness of personal protective gear would mitigate this possibility. More implausible direct effects to the general public may occur through walking through recently treated (wet) vegetation in shorts and consuming contaminated fruit. Narrative (shown above) for HQs $\geq$ for non-accidental acute exposure (single exposure for both triclopyr (amine and ester formulations) and hexazinone shows these situations are unlikely.

Direct and indirect effects from chemical spills of all herbicides analyzed to humans, wildlife and plants are minimized by following proper mixing and handling procedures, Forest-Wide Standards and BMPs.

Adverse, indirect effects to management indicator species (MIS) and habitats treated with all chemicals are reduced given that applicators treat target plants only, field formulations contain diluted concentrations of chemical and that mitigation measures, BMPs and Forest-Wide Standards will be used.

Implementation of Alternative 3 (no foliar spraying-reduced Rx burning) would not provide the level of indirect benefits to wildlife as would be expected with implementation of Alternative 2. Reduction of herbicide use would reduce the levels of early successional habitat, reduce diversity of herbaceous species in woodland restoration areas and reduce the promotion of oak/pine regeneration – below levels which would be expected with implementation of Alternative 2.

Air - Prescribed burning for pine and hardwood site preparation, TSI/PCT, wildlife forage production, ecosystem health, and hazardous fuel reduction will release approximately 6,404 tons of carbon dioxide along with lesser amounts of other emissions into the atmosphere for a short period of time. Burns will follow approved burning plans to manage the smoke and burning intensities. Mitigation measures will ensure compliance with federal, state and local clean air requirements, and no long-term cumulative effect is anticipated from implementation of

the proposed action. Arkansas voluntary smoke management guidelines will be followed to assure adherence to air quality regulations and prevent negative impacts to smoke sensitive areas.

Climate Change - With this alternative, some of the carbon currently sequestered in vegetation and soils will be released back to the atmosphere. In the short-term, greenhouse gas emissions and alteration to the carbon cycle will be caused by hazardous fuel reduction activities, timber harvests and thinning overstocked stands. In the long term, however, these actions will also increase the forest's ability to sequester additional carbon, improve the forest's resilience to the potential impacts of climate change and decrease the potential for severe wildfires.

Road Work – Maintenance on approximately 10.6 miles of open and closed roads will be performed in this project to get the roads in a suitable condition for hauling timber across them. Maintenance consists of spot blading and graveling. County roads that would be used are regularly maintained by their respective counties. Special cooperative agreements are in place to assist in any required maintenance resulting from logging operations. Several Maintenance Level 1 and 2 roads that were previously closed will be re-closed with gates/berms after use to reduce erosion and protect resources. The Forest Service Manual states that Maintenance Level 1 roads are to be closed to motorized traffic when management activities are complete.

Reconstruction on approximately 9.2 miles under Alternative 3 is proposed (1459 West, 1459 East, 1460, 94276B, 94277A, and 94277C). These roads are not maintained on a regular basis thus would require more work than the roads that receive maintenance. Up-grading these roads by installing culverts, wing-ditches, gravel, and rolling dips will stabilize them, thus minimizing sediment delivery to streams and drainages.

Approximately 13.2 miles under Alternative 3, no longer needed for management or access are proposed for decommissioning. Decommissioning involves restoring these roads by allowing them to blend back in to the general forest area. Activities used to decommission a road include, but are not limited to the following: re-establishing former drainage patterns, out sloping and stabilizing all road sections, restoring vegetation, blocking the entrance of the road, installing water bars (earthen mounds), and removing culverts. These activities are designed to completely eliminate the road bed by restoring natural conditions. Unnamed and unauthorized accessed OHV trails that are present in the project area may be closed using debris, rocks, earthen mounds, or gates.

Approximately 6.9 miles under Alternative 3 would be needed to access timber stands. These roads would be blocked and rehabilitated with seeding and/or natural re-vegetation. Temporary roads are not intended to be included as part of the forest transportation system but rather managed for short-term projects or activities and will be decomminssioned after use.

The density of open roads would decrease under Alternatives 3 as all presently-closed roads will be re-closed upon completion of the project. Currently, total road density of roads per square mile is about 3.03 miles length/mile^2. Under Alternatives 3, the road density decreases to 2.3 miles.

The auditory and visibility impacts of road-using equipment should be relatively short-lived with very little effect on the environment. Re-closure and decommissioning of roads would reduce erosion, improve water quality, and wildlife disturbance in the project area.

Based on the watershed analysis that evaluates roads' contribution of erosion and sediment under Alternative 3, rates of delivery are considered low risk.

Heritage Resources – The greatest risks for archeological sites on the Forest come from unmanaged and unmonitored resources. Planned management and restoration activities benefit the cultural landscape by controlling intrusive vegetation, excessive accumulation of fuel load and risk of wildfire, and managing recreational use (i.e. dispersed campsites, OHV usage of roads and trails). The federal presence that results from the implementation of project activities would be expected to benefit cultural resources over time by increasing opportunities for the monitoring of sites for looting and vandalism, thus assisting with enforcement of federal protection laws.

Vegetation and Vegetation Diversity – The compartments for which vegetation was analyzed contain approximately 7,049 acres of National Forest land, of which 5,440 acres are suitable timber-producing lands. The project area consists of pine timber types (3%) and hardwood timber types (97%). Currently, the project area does not have a balanced age-class with 82 percent of forest stands being over 80 years old (Table 15) and less than 2 percent being younger than 20 years old. Table 15 exhibits the age-class distributions on public lands in the Locust Gap Project.

Alternative 3 excludes the use of foliar application of herbicide. Eliminating the use of foliar herbicides and replacing it with a less-effective method (i.e., herbicide applied directly onto cut surface or by a streamline-to-bark application, or even handtools) could slow the process of regenerating the desirable species. However, using herbicides is always more effective than using handtools because it lasts longer and does not require repeated applications. Additionally, herbicides severely retard stump-sprouting. When only using handtools to cut undesirables, stump-sprouting will almost always occur, thus causing the desirable species to struggle against formidable competition for sunlight.

Alternative 3 also proposes less Rx burning per day, but will require more burning days. Smoke and fireline management will be easier and more controllable. However, additional miles of fireline may be needed to restrict burning size. This may cause a temporary slight increase in sedimentation in streams but no significant negative effects are anticipated.

Based on this analysis, the implementation of Alternative 3 could have a negative cumulative impact on human worker resources because of more intensive use of herbicide/handtool work.

Wildlife – With implementation of Alternatives 3, approximately 398 acres would be converted, through harvest and subsequent regeneration, from the 81-100+ year age classes to the 0-10 year age class. Implementation of the shelterwood regeneration system would result in 6 percent of the public land-base within the project area compartments in early successional forest habitat, as opposed to <1 percent under current conditions. Approximately 1,619 acres would be restored to

woodland condition through thinning in the 61-100 year age classes. Browse and early-successional habitat would be provided in these regeneration areas and thinned woodlands for a variety of wildlife species, especially when combined with prescribed fire. Viability of disturbance-dependent avian species would be enhanced. Avian species requiring both large and small areas of early successional vegetation and forest edge would benefit.

Implementation of Alternative 3 would result in an approximate 6 percent reduction of forest habitat that is greater than 81 years old (federal lands). Following implementation of either alternative, approximately 76 percent of the forested (both pine and hardwood) public land base within the project area compartments would remain in the 81-100+ year age classes. With implementation of 3, and taking into consideration recruitment of stands from the 61-80 year age class (approximately 538 acres or 8% of project area land base) as well as examination of distribution of stand age classes, fragmentation of interior forest habitat is not anticipated.

The effects of Prescribed Burning will be the replacement of brushy and woody vegetation in the understory to a more grass and forb composition, benefiting quail, deer, and many species of neo-tropical migratory birds. Oak regeneration would be encouraged, fuel accumulations would be reduced, risk of wildfire would decrease, and an increase in favorable habitat for fire- adapted and fire-dependent vegetation species would occur.

Fisheries – Activities planned will have minimal effect on water quality and fish habitat using the planned mitigation measures. Existing quality of fisheries should be maintained with a low risk of acute or chronic adverse effects to aquatic species from the planned actions.

TES (Threatened, Endangered and Sensitive Wildlife Species) – From past field surveys and knowledge of the area, and given the Proposed Action, those species which are analyzed and discussed further in this document are those that:

- Are found to be located in the activity area (OAR code "5"),

- Were not seen during the survey(s), but possibly occur in the activity area based on habitat observed during the survey(s) or field survey was not conducted when species is recognizable (OAR code "6"), and

- Known aquatic species known or suspected downstream of the project/activity area, but where project effects will be immeasurable or insignificant (OAR code "7").

The site specific Biological Evaluation shows two fish species (Ozark shiner and longnose darter), one mussel species (spectaclecase mussel) and one insect species (Nearctic paduniellan caddisfly) were identified downstream of the analysis area, but outside of the geographic bounds of the water resource cumulative effects analysis area (defined as the point below which sediment amounts are immeasurable and insignificant) (OAR "7").

Based upon the site specific water quality analysis for the Locust Gap projects, there will be no negative direct, indirect, or cumulative effects to aquatic sensitive species from sedimentation.

Implemetation of the project would not push sensitive species closer toward federal listing under the Endangered Species Act, or cause a loss of viability for sensitive aquatic species.

The site specific Biological Evaluation shows one mammal species (Ozark big-eared bat and four plant species (Ouachita leadplant, Ozark chinquapin, Southern lady's slipper, and Ozark spiderwort) were identified within the analysis area (OAR "5").

Also, the site specific Biological Evaluation shows fourteen species were not seen during field surveys, but possibly occur in the analysis area based on habitat observed or the field surveys were conducted when the species is not recognizable (OAR "6"): 1 bird species (bald eagle), 4 mammal species (gray bat, Eastern small-footed bat, Northern long-eared bat and Indiana bat), 1 isopod species (lirceus isopod), 1 crayfish species (William's crayfish) and 7 plant species (Bush's poppymallow, Moore's larkspur, French's shooting star, small-headed pipewort, Ovate-leaf catchfly, Nuttall's cornsalad, and Ozark cornsalad).

Human Health – There is a risk of worker injury during the completion of manual/mechanical vegetation treatments, and prescribed fire. Proper use of PPE, adherence to job hazard analyses and safety practices mitigate this risk. Risk to the public from these types of work is minimal. With proper handling/transport methods, use of signing in application areas (where required), use of proper application methods and equipment, and use of required PPE, risk of herbicide exposure to workers and the public is mitigated with implementation of Alternative 3.

Removal of dead and/or aging trees through thinning operations and fireline preparation will make the forest safer for forest visitors, through reducing the incidence of falling snags and limbs.

Use of prescribed burning will lessen potential wildland fire occurrence, wildland fire severity and unplanned smoke emissions. Strict adherence to FEIS and RLMRP guidelines, a site-specific burning plan and Arkansas Voluntary Smoke Management Guidelines will limit the area where specific burn plans, and Arkansas Voluntary Smoke Management Guidelines ensure that smoke or other combustion products do not reach, or significantly affect, smoke sensitive areas. Smoke monitoring during and after prescribed burns will be conducted to determine compliance with smoke management guidelines, and for potential future mitigation required for downwind smoke sensitive areas. These actions will ensure that the requirements of the Clean Air Act, EPA air standards, and state requirements will be met and there should be no smoke related long-term or cumulative effects from implementation of prescribed fire.

Economic/Social – Activities proposed would affect the local economy by supplying timber for local mills, employing loggers to harvest timber, employing people to do site preparation, TSI/PCT, and wildlife habitat improvement work.

The revenues derived from the selling price of timber would contribute to school and road funds in Madison County, in accordance with PL 112-141. At the time of the Locust Gap Project economic analysis, hardwood sawtimber sold for $54.53/CCF, hardwood pulpwood sold for $13.81/CCF, pine sawtimber sold for $63.03/CCF, and pine pulpwood sold for $22.53/CCF. These figures reflect an average from several timber sales recently sold on the OSFNFs. Table

20 lists the Present Value of implementing Alternatives 3.

Management Areas, Aesthetics, and Recreation –Vegetation management and prescribed burning will allow views which penetrate into the stands, allowing views further than the existing near foreground, and in the long-term provide the stands with greater aesthetic value and greater diversity of understory species. Area visitors will see and smell smoke during burning, see blackened trees and ground for the first season until the next spring green-up, see some browning of vegetation from harvest activities during the initial work in stands along county and forest roads.

Planned activities will have some short-term effects on aesthetics and recreational users may suffer temporary inconveniences from the implementation of planned work. No significant long-term or cumulative effects on these aesthetic and recreation resources are anticipated. Implementation of the selected alternative will have no long-term negative effects or cumulative negative effects.

Other alternatives considered in detail were:

Alternative 1. **No Action**: Analysis of this alternative measured the effects of not implementing the proposed ecosystem restoration, wildlife and associated vegetation management actions on the physical, biological, human health, and economic and social components of the environment. Only custodial management such as road maintenance, fire control and law enforcement would occur. Implementation of this alternative would not allow for the restoration of ecosystem health and creating sustainable forest ecosystem conditions through thinning and regeneration treatments and restoration of the fire regime mimicking historic/natural fire-return intervals. Implementation of this alternative would not increase plant and wildlife diversity. Habitat for early successional/disturbance-dependent species would not be improved. Historic ecosystems of oak forest would not be maintained for vegetation and wildlife. Implementation of this alternative would not reduce forest fuels and not reduce risk to forest ecosystems and private property. Implementation of this alternative would not reduce conflicts between motorized vehicle use and other resource values. Implementation of this alternative would not increase or improve recreational uses on the Forest. Implementation of this alternative would not improve Forest visitor safety. No direct revenues to the federal or county treasuries would occur from the sale of commodities and no employment opportunities would be generated. The objectives of the LRMP for wildlife and timber would not be met.

Alternative 2: This alternative was developed initially to respond to forest health issues of the area including rapid oak decline and establishment of Non-native Invasive Species (NNIS) such as the tree of heaven. Herbicides would be used more aggressively for vegetation manipulation. Generally, hand-tools are not as effective for vegetation manipulation as herbicides; this alternative includes provisions for greater herbicide use. Large Woody Debris (LWD) placement would also take place in the streams. However, after much internal discussion and public concern with the use of herbicide, water quality, soil erosion, LWD placement, and visuals, Alternative 3 was selected as the proposed action needed to complete a vegetation management prescription for all forest stands, both commercially and non-commercially.

My reasons for choosing **Alternative 3** were:

Overall, I viewed this proposal as the one best meeting the goals and objectives of the LRMP while still addressing the issues and concerns raised by the public, other agencies, and by the interdisciplinary team. Specifically, the reasons are:

- The selected alternative, as mitigated, addressed the issue of immediate and cumulative effects from past, current, and proposed actions on soil erosion, soil nutrient/productivity loss, and sediment/storm runoff, and wildlife habitat in the project area. The analysis shows that at the harvest level of Alternative 3, some soil compaction, soil disturbance, slight increases in nutrient and erosion loss, some increased sedimentation and stormflow, and a possible change in water chemistry would occur. However, these changes are still below the threshold level of environmental concern. After a short degradation of wildlife habitat from vegetation manipulation, the early seral habitat produced from the activities will provide for increased biological diversity and long-term wildlife benefits. There should be no long-term or cumulative effects on the environment from the planned actions.

- Use of herbicides continues to be a concern for many people. Concerns regarding harmful effects to humans, plants and animals from herbicide residues in water are the primary issue. The proposed action contains the use of herbicide using a cut-surface herbicide application rather than foliar spray application. It is anticipated this will reduce the amount of herbicide used, thereby responding to public concerns. wide-scale as Alternative 2. I decided this selection was acceptable due to the effects analysis in the EA which shows that, with mitigation measures in place, herbicides can be a safe, cost-effective, and an efficient tool to accomplish the needed work. Overall, there will be no significant short-term harmful effects to humans, TES species, or wildlife, and no significant long-term or cumulative effects from the planned herbicide use.

- Use of LWD is a growing concern for the public. Perceived concerns include streambank erosion, log/debris buildup and increased damage to personal property during flood events, and danger to canoers/kayakers. Field survey of Little Mulberry Creek and its tributaries within the project area show existing levels of LWD are adequate for fish habitat. Alternative 3 removes this provision of placing LWD into streams.

- The issue of effects of past, present, and proposed activities on vegetation is analyzed in the EA pp. 98-104. Effects for this alternative on fragmentation are minimal, since all areas to be worked will retain a forest canopy, except for road corridors.

- With implementation of Alternatives 3, approximately 398 acres would be converted, through harvest and subsequent regeneration, from the 81-100+ year age classes to the 0-10 year age class. Implementation of the shelterwood regeneration system would result in 6 percent of the public land-base within the project area compartments in early successional forest habitat, as opposed to <1 percent under current conditions. Approximately 1,619 acres would be restored to woodland condition through thinning

in the 61-100 year age classes. Browse and early-successional habitat would be provided in these regeneration areas and thinned woodlands for a variety of wildlife species, especially when combined with prescribed fire. Viability of disturbance-dependent avian species would be enhanced. Avian species requiring both large and small areas of early successional vegetation and forest edge would benefit.

- Implementation of Alternative 3 would result in an approximate 6 percent reduction of forest habitat that is greater than 81 years old (federal lands). Following implementation of Alternative 3, approximately 76 percent of the forested (both pine and hardwood) public land base within the project area compartments would remain in the 81-100+ year age classes. With implementation of Alternative 3, and taking into consideration recruitment of stands from the 61-80 year age class (approximately 538 acres or 8% of project area land base) as well as examination of distribution of stand age classes, fragmentation of interior forest habitat is not anticipated.

- Analysis for the selected alternative shows that prescribed fire can be a useful practice for several purposes. Prescribed fire would serve to reintroduce fire into a fire-adapted ecosystem, promote oak regeneration in shelterwood harvest areas, maintain pine/hardwood stands in open conditions, increase herbaceous understory species density and diversity, increase soft-mast production and reduce potentially hazardous accumulations of fuels on the forest floor. Alternative 3 reduces the acres of prescribed burning per day but increases the number of days needed to complete ignitions.

- Alternative 3 will provide a positive effect on the local economy by providing forest products, government revenues, and job opportunities. This alternative will also improve forest health and the surrounding watershed.

- When implemented, alternative 3 will be monitored through timber sale inspections, regeneration surveys, water quality monitoring, and other actions listed in the mitigation measures on pages 37-46 of the EA.

FINDING OF NO SIGNIFICANT IMPACTS (FONSI):

Based on my review of the above analysis and from past experience, I have determined that the proposed actions are not a major Federal action either individually or cumulatively, and will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not necessary. This determination is based on the following factors (40 CFR 1508.27):

1. Both beneficial and adverse effects have been considered and this action should not have a significant effect on the quality of the human environment (EA, pp. 46-131).

2. The actions should not significantly affect public health or safety (EA, pp. 118-123).

3. The project will not significantly affect any unique characteristics of the geographic area such as proximity to historic or cultural resources, ecologically critical areas, or wild and scenic rivers (EA, pp. 94-98, 98-104, 124-131).

4. The effects on the quality of the human environment are not likely to be highly controversial (EA, pp. 46-131).

5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment (EA, pp. 46-131).

6. The actions in this decision will not establish a precedent for future actions with significant effects nor does it represent a decision in principle about a future consideration.

7. There will be no cumulatively significant impacts on the environment. The cumulative effects of the proposed actions have been analyzed with consideration of other similar activities on adjacent lands, in past actions, and in foreseeable future actions (EA, pp. 46-131).

8. The actions will not affect any sites listed, or eligible for listing, in the National Register of Historic Places nor will they cause loss or destruction of significant scientific, cultural, or historic resources (EA, pp. 94-98).

9. The actions are not likely to adversely affect endangered or threatened plant or animal species, or their critical habitat (EA, pp. 113-118).

10. None of the actions threaten to lead to violation of federal, state, or local laws imposed for the protection of the environment (EA, pp. 46-131).

For water quality management, state-approved Best Management Practices (BMPs), which are incorporated into the mitigation measures, will be used for this project. These BMPs are from the state water quality management plan and have been designed with the goal of producing water that meets state water quality standards. The project will be monitored to ensure BMPs are implemented. If implementing BMPs on a specific site results in effects significantly higher than anticipated because of unforeseen site factors or events, appropriate corrective measures will be considered and implemented.

Actions are also consistent with the Antiquities Act, Endangered Species Act, Clean Air Act, Clean Water Act, and all other applicable state and federal laws and regulations. Additionally, the best available scientific data was used when selecting and analyzing the effects of the proposed action.

OTHER FINDINGS:

1. The actions of the project are consistent with the Ozark-St. Francis National Forests LRMP goals and objectives (Revised-2005). All of the actions associated with this

project occur within Management Areas: Scenic Byway Corridor (1.H), Oak Woodland (3.B), Mixed Forest (3.C), and Riparian Corridors (3.I). All of the planned actions associated with these projects are consistent with the management prescriptions and management practices for these Management Areas. The actions are also consistent with the LRMP because mitigation measures for impacts shall be fully applied in implementation. The project is feasible and reasonable, restores ecosystem health, protects the environment while producing goods and services.

2. The actions of this project comply with the ecological, social, and economic requirements of 36 CFR 219.19 by following the Forest-wide standards and guides. These actions also meet the General Management requirements and Mitigation Measures in the ROD of the FEIS for Vegetation Management in the Ozark/Ouachita Mountains. The requirements met are:

    1. The activities chosen are best suited for the multiple-use goals of the area.

    2. All practices prescribed for vegetation management areas will maintain adequate stocking for the area now and in the future. Areas selected for shelterwood harvest are mature stands of trees, have good seed-producing qualities, and are situated on suitable soils for natural regeneration.

    3. Alternative 3 was not selected based upon the output of timber. This alternative provides a positive effect on the local economy, forest health, recreation and wildlife and has only minimal short-term effects on other resources.

    4. The activities chosen will not adversely affect residual trees in adjacent stands.

    5. The activities chosen, with mitigating measures, avoid permanent impairment of site productivity and insure conservation of soil and water resources.

    6. The activities provide for meeting LRMP objectives for all resources.

    7. The activities are practical in terms of transportation, vegetation management and total cost of site preparation, logging, and administration.

IMPLEMENTATION:

This decision is subject to to pre-decisional objection process pursuant to 36 CFR 218 Subparts A and B. A written Notice of Objection must be postmarked or received within 45 days after the date this notice is published (November 19, 2014). Only those who provided substantive comments regarding the proposed action during the scoping and/or comment period will be accepted as objectors.

The EA and draft DN/FONSI are available on-line at:
http://www.fs.usda.gov/detail/osfnf/landmanagement/planning/?cid=stelprdb5212216

Once you have reached this site, scroll to the bottom of the page and the Final EA/Draft DN will be located under the project name "Locust Gap".

These documents along with any additional information are also available for review at the Pleasant Hill Ranger District, 2591 Hwy 21 North, Clarksville, AR. 72830.

How to Object and Timeframe

The opportunity to object ends 45 days following the date of publication of the legal notice in the Johnson County ***Graphic***. The publication date of the legal notice in the ***Graphic*** (11/26/14) is the exclusive means for calculating the time to file an objection, and that those wishing to object should not rely upon dates or timeframe information provided by any other source.

Objections will be accepted only from those who have previously submitted specific written comments regarding the proposed project during scoping or other designated opportunity for public comment. Issues raised in objections must be based on previously submitted timely, specific written comments regarding the proposed project unless based on new information arising after designated comment opportunities §218.8(c).

The objection must contain the minimum content requirements specified in §218.8(d) and incorporation of documents by reference is permitted only as provided in §218.8(b). It is the objector's responsibility to ensure timely filing of a written objection with the reviewing officer. All objections are available for public inspection during and after the objection process.

Written objections, including attachments, must be filed with: Reggie Blackwell, Forest Supervisor, 605 West Main Street, Russellville, AR. 72801. The office business hours for those submitting hand-delivered objections are: 8:30 am to 4:30 pm Monday through Friday, excluding holidays. Electronic objections must be submitted in a format such as an email message, plain text (.txt), rich text format (.rtf), or Word (.doc, .docx) to *ozarkobjection@fs.fed.us*.

Please state "Locust Gap Project" in the subject line when providing electronic objections, or on the envelope when replying by mail.

PAT KOWALEWYCZ Date
District Ranger